

American Journal of Physiology: Gastrointestinal and Liver Physiology

No. 1. JULY 1999

THEMES

- Mucosal Immunity and Inflammation. III. The mucosal antigen barrier: cross talk with mucosal cytokines
M. H. Perdue G1
- Lessons From Genetically Engineered Animal Models. I. Physiological studies with gastrin in transgenic mice
T. C. Wang and G. J. Dockray G6

MUCOSAL BIOLOGY

- Quantification and distribution of Ca^{2+} -activated maxi K^{+} channels in rabbit distal colon
M. Grunnet, H.-G. Knaus, C. Solander, and D. A. Klaerke G22
- Metabolism of short-chain fatty acids by rat colonic mucosa in vivo
M. D. Fitch and S. E. Fleming G31
- Intestinal plasma membrane calcium pump protein and its induction by $1,25(\text{OH})_2\text{D}_3$ decrease with age
H. J. Armbricht, M. A. Boltz, and V. B. Kumar G41
- Part of quercetin absorbed in the small intestine is conjugated and further secreted in the intestinal lumen
V. Crespy, C. Morand, C. Manach, C. Besson, C. Demigne, and C. Remesy G120
- Transcobalamin II synthesized in the intestinal villi facilitates transfer of cobalamin to the portal blood
E. V. Quadros, A. L. Regec, K. M. F. Khan, E. Quadros, and S. P. Rothenberg G161
- Ion transport across the normal and CF neonatal murine intestine
B. R. Grubb G167
- A thermal injury-induced circulating factor(s) compromises intestinal cell morphology, proliferation, and migration
M. Varedi, G. H. Greeley, Jr., D. N. Herndon, and E. W. Englander G175
- Kex2 family endoprotease furin is expressed specifically in pit-region parietal cells of the rat gastric mucosa
H. Kamimura, Y. Konda, H. Yokota, S.-I. Takenoshita, Y. Nagamachi, H. Kuwano, and T. Takeuchi G183
- Selective secretion and replenishment of discrete mucin glycoforms from intestinal goblet cells
C. M. Stanley and T. E. Phillips G191

INFLAMMATION/IMMUNITY/MEDIATORS

- Microcirculatory perfusion deficits are not essential for remote parenchymal injury within the liver
R. W. Brock, M. W. Carson, K. A. Harris, and R. F. Potter G55
- Differential changes in ACh-, motilin-, substance P-, and K^{+} -induced contractility in rabbit colitis
I. Depoortere, G. Van Assche, T. Thijs, K. Geboes, and T. L. Peeters G61
- Modulation of host cell membrane fluidity: a novel mechanism for preventing bacterial adhesion
A. Ismaili, J. B. Meddings, S. Ratnam, and P. M. Sherman G201
- Autoimmune gastritis results in disruption of gastric epithelial cell development
L. M. Judd, P. A. Gleeson, B.-H. Toh, and I. R. van Driel G209

Bacterial cell wall polymers promote intestinal fibrosis by direct stimulation of myofibroblasts

E. A. F. van Tol, L. Holt, F. L. Li, F.-M. Kong, R. Rippe, M. Yamauchi, J. Pucilowska, P. K. Lund, and R. B. Sartor

G245

HORMONES AND SIGNALING

Arginine vasopressin inhibits fluid secretion in guinea pig pancreatic duct cells

S. B. H. Ko, S. Naruse, M. Kitagawa, H. Ishiguro, M. Murakami, and T. Hayakawa

G48

Effect of milrinone on small mesenteric artery vasoconstriction: role of K⁺ channels

M. S. Taylor and J. N. Benoit

G69

Mechanism of action of cholera toxin on the opossum internal anal sphincter smooth muscle

Y.-P. Fan, S. Chakder, and S. Rattan

G152

NEUROREGULATION AND MOTILITY

Stimulation of the paraventricular nucleus modulates the activity of gut-sensitive neurons in the vagal complex

X. Zhang, R. Fogel, and W. E. Rhenan

G79

Molecular diversity of K_v α - and β -subunit expression in canine gastrointestinal smooth muscles

A. Epperson, H. P. Bonner, S. M. Ward, W. J. Hatton, K. K. Bradley, M. E. Bradley, J. S. Trimmer, and B. Horowitz

G127

Cortical activation during human volitional swallowing: an event-related fMRI study

S. Hamdy, D. J. Mikulis, A. Crawley, S. Xue, H. Lau, S. Henry, and N. E. Diamant

G219

Duodenal neurons provide nicotinic fast synaptic input to sphincter of Oddi neurons in guinea pig

G. M. Mawe and A. L. Kennedy

G226

Expression of somatostatin receptor subtypes on guinea pig gastric and colonic smooth muscle cells

V. D. Corleto, H. C. Weber, and R. T. Jensen

G235

LIVER AND BILIARY TRACT

Biliary excretion in primary rat hepatocytes cultured in a collagen-sandwich configuration

X. Liu, E. L. LeCluyse, K. R. Brouwer, L.-S. L. Gan, J. J. Lemasters, B. Stieger, P. J. Meier, and K. L. R. Brouwer

G12

Effects of LPS on transport of indocyanine green and alanine uptake in perfused rat liver

M. Lund, L. Kang, N. Tygstrup, A. W. Wolkoff, and P. Ott

G91

Blockade of hepatic nitric oxide synthase causes insulin resistance

P. Sadri and W. W. Lautt

G101

Saturable stimulation of fatty acid transport through model cytoplasm by soluble binding protein

R. A. Weisiger

G109

Quantitation of rat hepatic stellate cell contraction: stellate cells' contribution to sinusoidal resistance

M. S. Thimman and H. F. Yee, Jr.

G137

A novel nitric oxide scavenger decreases liver injury and improves survival after hemorrhagic shock

J. Menezes, C. Hierholzer, S. C. Watkins, V. Lyons, A. B. Peitzman, T. R. Billiar, D. J. Tweardy, and B. G. Harbrecht

G144

THEMES

- Mucosal Immunity and Inflammation. IV. Paneth cell antimicrobial peptides and the biology of the mucosal barrier
A. J. Ouellette G257
- Lessons From Genetically Engineered Animal Models. II. Disorders of enteric neuronal development: insights from transgenic mice
M. D. Gershon G262

EXPEDITED ARTICLE

- Expression and distribution of the $\text{Na}^+/\text{HCO}_3^-$ cotransporter in human pancreas
C. R. Marino, V. Jeanes, W. F. Boron, and B. M. Schmitt G487

MUCOSAL BIOLOGY

- Acid-sensing pathways of rat duodenum
Y. Akiba, P. H. Guth, E. Engel, I. Nastaskin, and J. D. Kaunitz G268
- Development of an endogenous epithelial Na^+/H^+ exchanger (NHE3) in three clones of Caco-2 cells
A. J. Janecki, M. H. Montrose, C. M. Tse, F. Sanchez de Medina, A. Zweibaum, and M. Donowitz G292
- Expression of AE2 anion exchanger in mouse intestine
S. L. Alper, H. Rossmann, S. Wilhelm, A. K. Stuart-Tilley, B. E. Shmukler, and U. Seidler G321
- Cytoplasmic transport of fatty acids in rat enterocytes: role of binding to fatty acid-binding protein
B. A. Luxon and M. T. Milliano G361
- Adherent surface mucus gel restricts diffusion of macromolecules in rat duodenum in vivo
G. Flemström, A. Hällgren, O. Nylander, L. Engstrand, E. Wilander, and A. Allen G375
- Molecular cloning, tissue distribution, and functional expression of the human Na^+/H^+ exchanger NHE2
J. Malakooti, R. Y. Dahdal, L. Schmidt, T. J. Layden, P. K. Dudeja, and K. Ramaswamy G383
- Corticotropin-releasing hormone mimics stress-induced colonic epithelial pathophysiology in the rat
J. Santos, P. R. Saunders, N. P. M. Hanssen, P.-C. Yang, D. Yates, J. A. Groot, and M. H. Perdue G391
- NSP4 elicits age-dependent diarrhea and Ca^{2+} -mediated I^- influx into intestinal crypts of CF mice
A. P. Morris, J. K. Scott, J. M. Ball, C. Q.-Y. Zeng, W. K. O'Neal, and M. K. Estes G431

INFLAMMATION/IMMUNITY/MEDIATORS

- Lymphatic absorption of structured triglycerides vs. physical mix in a rat model of fat malabsorption
P. Tso, T. Lee, and S. J. Demichele G333
- Differential inflammatory modulation of canine ileal longitudinal and circular muscle cells
X.-Z. Shi and S. K. Sarna G341
- Effects of calcium channel antagonists on LPS-induced hepatic iNOS expression
S. B. Mustafa and M. S. Olson G351
- IL-5 contributes to worm expulsion and muscle hypercontractility in a primary *T. spiralis* infection
B. A. Vallance, P. A. Blennerhassett, Y. Deng, K. I. Matthaei, I. G. Young, and S. M. Collins G400

HORMONES AND SIGNALING

- Blood flow-dependent prostaglandin $F_{2\alpha}$ regulates intestinal glucose uptake from the blood
C. Han, Z. Ming, and W. W. Lauth G367
- HSP27 in signal transduction and association with contractile proteins in smooth muscle cells
A. I. Ibitayo, J. Sladick, S. Tuteja, O. Louis-Jacques, H. Yamada, G. Groblewski, M. Welsh, and K. N. Bitar G445
- Hsp90 regulation of endothelial nitric oxide synthase contributes to vascular control in portal hypertension
V. Shah, R. Wiest, G. Garcia-Cardena, G. Cadelina, R. J. Groszmann, and W. C. Sessa G463
- Electrical physiological evidence for high- and low-affinity vagal CCK-A receptors
Y. Li, J. Zhu, and C. Owyang G469

NEUROREGULATION AND MOTILITY

- Nitroergic regulation of colonic transit in rats
Y. Mizuta, T. Takahashi, and C. Owyang G275
- Neuronal NOS provides nitroergic inhibitory neurotransmitter in mouse lower esophageal sphincter
C. D. Kim, R. K. Goyal, and H. Mashimo G280
- Impaired stimulation of intestinal glucose absorption via hepatoenteral nerves in streptozotocin-diabetic rats
F. Stümpel, T. Kucera, and K. Jungermann G285
- Myogenic mechanism for peristalsis in the cat esophagus
H. G. Preiksaitis and N. E. Diamant G306
- Substance P inhibits pancreatic exocrine secretion via a neural mechanism
K. S. Kirkwood, E. H. Kim, X. D. He, E. Q. Calastro, C. Domush, S. K. Yoshimi, E. F. Grady, J. Maa, N. W. Bunnett, and H. T. Debas G314
- Generation of slow waves in membrane potential is an intrinsic property of interstitial cells of Cajal
J. C. F. Lee, L. Thuneberg, I. Berezin, and J. D. Huizinga G409
- Detection of gastric slow wave propagation from the cutaneous electrogastrogram
J. D. Z. Chen, X. Zou, X. Lin, S. Ouyang, and J. Liang G424
- LPS-induced muscularis macrophage nitric oxide suppresses rat jejunal circular muscle activity
M. K. Eskandari, J. C. Kalf, T. R. Billiar, K. K. W. Lee, and A. J. Bauer G478

LIVER AND BILIARY TRACT

- Azoxymethane-induced fulminant hepatic failure in C57BL/6J mice: characterization of a new animal model
K. A. Matkowskyj, J. A. Marrero, R. E. Carroll, A. V. Danilkovich, R. M. Green, and R. V. Benya G455

No. 3. SEPTEMBER 1999

THEMES

- Mucosal Immunity and Inflammation. V. Innate mechanisms of mucosal defense and repair: the best offense is a good defense
D. K. Podolsky G495
- Lessons From Genetically Engineered Animal Models. III. Lessons learned from gastrin gene deletion in mice
K. L. Hinkle and L. C. Samuelson G500

MUCOSAL BIOLOGY

- Biosynthesis and secretion of the mannose 6-phosphate receptor and its ligands in polarized Caco-2 cells
D. A. Wick, B. Seetharam, and N. M. Dahms G506
- Stroking human jejunal mucosa induces 5-HT release and Cl^- secretion via afferent neurons and 5-HT₄ receptors
J. M. Kellum, F. C. Albuquerque, M. C. Stoner, and R. P. Harris G515
- Ammonia blockade of intestinal epithelial K⁺ conductance
B. J. Hrnjez, J. C. Song, M. Prasad, J. M. Mayol, and J. B. Matthews G521
- Intestinal overexpression of EGF in transgenic mice enhances adaptation after small bowel resection
C. R. Erwin, M. A. Helmrath, C. E. Shin, R. A. Falcone, Jr., L. E. Stern, and B. W. Warner G533
- Na transport in sheep rumen is modulated by voltage-dependent cation conductance in apical membrane
I. Lang and H. Martens G609
- Oral IGF-I enhances nutrient and electrolyte absorption in neonatal piglet intestine
A. N. Alexander and H. V. Carey G619
- Requirement of the MAP kinase cascade for cell cycle progression and differentiation of human intestinal cells
J. C. Aliaga, C. Deschênes, J.-F. Beaulieu, E. L. Calvo, and N. Rivard G631
- Carboxyl ester lipase activity in milk prevents fat-derived intestinal injury in neonatal mice
P. N. Howles, G. N. Stemmerman, C. M. Fenoglio-Preiser, and D. Y. Hui G653
- Identification of a functional Ca^{2+} -sensing receptor in normal human gastric mucous epithelial cells
M. J. Rutten, K. D. Bacon, K. L. Marlink, M. Stoney, C. L. Meichsner, F. P. Lee, S. A. Hobson, K. D. Rodland, B. C. Sheppard, D. D. Trunkey, K. E. Deveney, and C. W. Deveney G662
- CFTR-mediated inhibition of epithelial Na⁺ conductance in human colon is defective in cystic fibrosis
M. Mall, M. Bleich, J. Kuehr, M. Brandis, R. Greger, and K. Kunzelmann G709
- Intestinal adaptation and enterocyte apoptosis following small bowel resection is p53 independent
C. E. Shin, R. A. Falcone, Jr., C. J. Kemp, C. R. Erwin, D. A. Litvak, B. M. Evers, and B. W. Warner G717

INFLAMMATION/IMMUNITY/MEDIATORS

- Role of inducible nitric oxide synthase in the regulation of VCAM-1 expression in gut inflammation
S. Kawachi, A. Cockrell, F. S. Laroux, L. Gray, D. N. Granger, H. C. van der Heyde, and M. B. Grisham G572
- Estriol sensitizes rat Kupffer cells via gut-derived endotoxin
N. Enomoto, S. Yamashina, P. Schemmer, C. A. Rivera, B. U. Bradford, A. Enomoto, D. A. Brenner, and R. G. Thurman G671

HORMONES AND SIGNALING

- Corticosteroid receptors and 11 β -hydroxysteroid dehydrogenase isoforms in rat intestinal epithelia
K. E. Sheppard, K. X. Z. Li, and D. J. Autelitano G541
- β -Adrenergic agonists stimulate Na⁺-K⁺-Cl⁻ cotransport by inducing intracellular Ca^{2+} liberation in crypt cells
J. R. Del Castillo, J. C. Arévalo, L. Burguillos, and M. C. Súlbaran-Carrasco G563
- Group I secreted PLA₂ and arachidonic acid metabolites in the maintenance of cat LES tone
W. B. Cao, K. M. Harnett, Q. Chen, M. K. Jain, J. Behar, and P. Biancani G585
- Peripheral gastric leptin modulates brain stem neuronal activity in neonates
C.-S. Yuan, A. S. Attele, J. A. Wu, L. Zhang, and Z. Q. Shi G626

- Caerulein-induced NF- κ B/Rel activation requires both Ca²⁺ and protein kinase C as messengers
Y. Tando, H. Algül, M. Wagner, H. Weidenbach, G. Adler, and R. M. Schmid G678
- Canine pancreatic juice stimulates the release of secretin and pancreatic secretion in the dog
Y. Song, P. Li, K. Y. Lee, T.-M. Chang, and W. Y. Chey G731
- Responsiveness of β -escin-permeabilized rabbit gastric gland model: effects of functional peptide fragments
K. Akagi, T. Nagao, and T. Urushidani G736

NEUROREGULATION AND MOTILITY

- Biphasic relaxation of the opossum lower esophageal sphincter: roles of NO[•], VIP, and CGRP
A. Uc, S. T. Oh, J. A. Murray, E. Clark, and J. L. Conklin G548
- Intracisternal PYY increases gastric mucosal resistance: role of cholinergic, CGRP, and NO pathways
H. Yang, K. Kawakubo, and Y. Taché G555
- Lower esophageal sphincter monitoring with sphinctrometer: in vitro and in vivo studies
N. Pehlivanov, J. Liu, T. Arora, Y. Yamamoto, and R. K. Mittal G577
- Gastrointestinal motor and myoelectric correlates of motion sickness
I. M. Lang, S. K. Sarna, and R. Shaker G642
- Cerebral topography of rectal stimulation using single photon emission computed tomography
E. P. Bouras, T. J. O'Brien, M. Camilleri, M. K. O'Connor, and B. P. Mullan G687
- Biomechanical basis for lingual muscular deformation during swallowing
V. J. Napadow, Q. Chen, V. J. Wedeen, and R. J. Gilbert G695

LIVER AND BILIARY TRACT

- Cryptosporidium parvum* induces apoptosis in biliary epithelia by a Fas/Fas ligand-dependent mechanism
X.-M. Chen, G. J. Gores, C. V. Paya, and N. F. LaRusso G599
- Differential protective effects of Bcl-x_L and Bcl-2 on apoptotic liver injury in transgenic mice
A. De La Coste, M. Fabre, N. McDonnell, A. Porteu, H. Gilgenkrantz, C. Perret, A. Kahn, and A. Mignon G702
- Carbon monoxide disposition in the perfused rat liver
D. G. Le Couteur, Z. L. Yin, L. P. Rivory, and A. J. McLean G725

No. 4. OCTOBER 1999

THEMES

- Lessons From Genetically Engineered Animal Models. IV. Nitric oxide synthase gene knockout mice
H. Mashimo and R. K. Goyal G745
- Nutrient Tasting and Signaling Mechanisms in the Gut. I. Sensing of lipid by the intestinal mucosa
H. E. Raybould G751

ANNOUNCEMENTS

G915

MUCOSAL BIOLOGY

- Regulation of small intestinal Na-P_i type IIb cotransporter by dietary phosphate intake
O. Hattenhauer, M. Traebert, H. Murer, and J. Biber G756
- Gastrin stimulates the growth of gastric pit with less-differentiated features
Y. Konda, H. Kamimura, H. Yokota, N. Hayashi, K. Sugano, and T. Takeuchi G773

- Temporal changes in TFF3 expression and jejunal morphology during methotrexate-induced damage and repair
C. J. Xian, G. S. Howarth, C. E. Mardell, J. C. Cool, M. Familari, L. C. Read, and A. S. Giraud G785

- Role of salivary mucin in the protection of rat esophageal mucosa from acid and pepsin-induced injury
M. Kinoshita, E. Kume, S. Igarashi, N. Saito, and H. Narita G796

INFLAMMATION/IMMUNITY/MEDIATORS

- Altered migration of gut-derived T lymphocytes after activation with concanavalin A
R. Hokari, S. Miura, H. Fujimori, S. Koseki, Y. Tsuzuki, H. Kimura, H. Higuchi, H. Serizawa, D. N. Granger, and H. Ishii G763

- IL-1 β mediates induction of hepatic type 1 plasminogen activator inhibitor in response to local tissue injury
T. Seki, A. M. Healy, D. S. Fletcher, T. Noguchi, and T. D. Gelehrter G801

- Human intestinal epithelial cells express receptors for platelet-activating factor
N. Merendino, M. B. Dwinell, N. Varki, L. Eckmann, and M. F. Kagnoff G810

- Phosphodiesterase inhibitors prevent NSAID enteropathy independently of effects on TNF- α release
B. K. Reuter and J. L. Wallace G847

HORMONES AND SIGNALING

- Role of the vasopressin V₁ receptor in regulating the epithelial functions of the guinea pig distal colon
Y. Sato, H. Hanai, A. Nogaki, K. Hirasawa, E. Kaneko, H. Hayashi, and Y. Suzuki G819

- Divergent regulation of human and rat proglucagon gene promoters in vivo
M. Nian, D. J. Drucker, and D. Irwin G829

NEUROREGULATION AND MOTILITY

- Protein meals reduce nausea and gastric slow wave dysrhythmic activity in first trimester pregnancy
M. A. Jednak, E. M. Shadigian, M. S. Kim, M. L. Woods, F. G. Hooper, C. Owyang, and W. L. Hasler G855

- Measurement of upper esophageal sphincter tone and relaxation during swallowing in premature infants
T. Omari, A. Snel, C. Barnett, G. Davidson, R. Haslam, and J. Dent G862

- Inhibition of transient LES relaxations and reflux in ferrets by GABA receptor agonists
L. A. Blackshaw, E. Staunton, A. Lehmann, and J. Dent G867

- Evidence for a feedback inhibition of NO synthesis in enteric synaptosomes via a nitrosothiol intermediate
M. Kurjak, P. Koppitz, V. Schusdziarra, and H. D. Allescher G875

- Delayed rectifier and Ca²⁺-dependent K⁺ currents in human esophagus: roles in regulating muscle contraction
G. R. Wade, L. G. Laurier, H. G. Preiksaitis, and S. M. Sims G885

LIVER AND BILIARY TRACT

- Changes in growth factor and cytokine mRNA levels after hepatectomy in rat with CCl₄-induced cirrhosis
S. Masson, M. Scotté, A. François, M. Coeffier, F. Provot, M. Hiron, P. Ténrière, J. Fallu, J. P. Salier, and M. Daveau G838

- Carrier-mediated uptake of lucifer yellow in skate and rat hepatocytes: a fluid-phase marker revisited
N. Ballatori, D. N. Hager, S. Nundy, D. S. Miller, and J. L. Boyer G896

- Kinetics of endothelin-1 binding in the dog liver microcirculation in vivo
J. Dupuis, A. J. Schwab, A. Simard, P. Cernacek, D. J. Stewart, and C. A. Goresky G905

THEMES

- Lessons From Genetically Engineered Animal Models. V. Knocking out genes to study liver regeneration: present and future
N. Fausto G917
- Nutrient Tasting and Signaling Mechanisms in the Gut. II. The intestine as a sensory organ: neural, endocrine, and immune responses
J. B. Furness, W. A. A. Kunze, and N. Clerc G922

EXPEDITED ARTICLES

- Stimulation of jejunal synthesis of apolipoprotein A-IV by ileal lipid infusion is blocked by vagotomy
T. J. Kalogeris, V. R. Holden, and P. Tso G1081
- Carbon monoxide overproduced by heme oxygenase-1 causes a reduction of vascular resistance in perfused rat liver
Y. Wakabayashi, R. Takamiya, A. Mizuki, T. Kyokane, N. Goda, T. Yamaguchi, S. Takeoka, E. Tsuchida, M. Suematsu, and Y. Ishimura G1088

MUCOSAL BIOLOGY

- Induction of G₁ checkpoint in the gastric mucosa of aged rats
Z.-Q. Xiao, Y. Yu, A. Khan, R. Jaszewski, M. N. Ehrinpreis, and A. P. N. Majumdar G929
- Glucocorticoids have pleiotropic effects on small intestinal crypt cells
A. Quaroni, J. Q. Tian, M. Göke, and D. K. Podolsky G1027

INFLAMMATION/IMMUNITY/MEDIATORS

- Amount and fate of egg protein escaping assimilation in the small intestine of humans
P. Evenepoel, D. Claus, B. Geypens, M. Hiele, K. Geboes, P. Rutgeerts, and Y. Ghoois G935
- Mechanical stretch modulates TGF- β 1 and α 1(I) collagen expression in fetal human intestinal smooth muscle cells
J. A. Gutierrez and H. A. Perr G1074

HORMONES AND SIGNALING

- Endothelin-1 stimulation of endothelial nitric oxide synthase in the pathogenesis of hepatopulmonary syndrome
M. Zhang, B. Luo, S.-J. Chen, G. A. Abrams, and M. B. Fallon G944
- Expression and modulation of p42/p44 MAPKs and cell cycle regulatory proteins in rat pancreas regeneration
J. Morisset, J. C. Aliaga, E. L. Calvo, J. Bourassa, and N. Rivard G953
- Marked increase of guanylin secretion in response to salt loading in the rat small intestine
T. Kita, K. Kitamura, J. Sakata, and T. Eto G960
- Somatostatin peptides inhibit basolateral potassium channels in human colonic crypts
G. I. Sandle, G. Warhurst, I. Butterfield, N. B. Higgs, and R. B. Lomax G967
- Induction of mucin gene expression in human colonic cell lines by PMA is dependent on PKC- ϵ
D.-H. Hong, G. Petrovics, W. B. Anderson, J. Forstner, and G. Forstner G1041
- Expression of voltage-dependent K⁺ channel genes in mesenteric artery smooth muscle cells
C. Xu, Y. Lu, G. Tang, and R. Wang G1055

NEUROREGULATION AND MOTILITY

- Mg²⁺ transport in sheep rumen epithelium: evidence for an electrodiffusive uptake mechanism
M. Schweigel, I. Lang, and H. Martens G976

- Relationship between terminal ileal pressure waves and propagating proximal colonic pressure waves
P. G. Dinning, P. A. Bampton, M. L. Kennedy, and I. J. Cook G983
- Intestinal tachyarrhythmias during small bowel ischemia
S. A. Seidel, S. S. Hegde, L. A. Bradshaw, J. K. Ladipo, and W. O. Richards G993
- Substance P may attenuate gastric hyperemia by a mast cell-dependent mechanism in the damaged gastric mucosa
A. Rydning, O. Lyng, S. Aase, and J. E. Grønbech G1064

LIVER AND BILIARY TRACT

- Hepatic artery buffer response following left portal vein ligation: its role in liver tissue homeostasis
B. Rocheleau, C. Éthier, R. Houle, P. M. Huet, and M. Bilodeau G1000
- Trypsin and activation of circulating trypsinogen contribute to pancreatitis-associated lung injury
W. Hartwig, J. Werner, R. E. Jimenez, K. Z'Graggen, J. Weimann, K. B. Lewandrowski, A. L. Warshaw, and C. Fernández-del Castillo G1008
- Cholesterol inhibits spontaneous action potentials and calcium currents in guinea pig gallbladder smooth muscle
L. J. Jennings, Q.-W. Xu, T. A. Firth, M. T. Nelson, and G. M. Mawe G1017
- PGE₂ stimulates O₂ uptake in hepatic parenchymal cells: involvement of the cAMP-dependent protein kinase
W. Qu, L. M. Graves, and R. G. Thurman G1048

No. 6. DECEMBER 1999

THEMES

- Lessons From Genetically Engineered Animal Models. VI. Liver repopulation systems and study of pathophysiological mechanisms in animals
S. Gupta and C. E. Rogler G1097
- Nutrient Tasting and Signaling Mechanisms in the Gut. III. Endocrine cell recognition of luminal nutrients
A. M. J. Buchan G1103

INVITED REVIEW

- The cytoskeleton of digestive epithelia in health and disease
N.-O. Ku, X. Zhou, D. M. Toivola, and M. B. Omary G1108
-

MUCOSAL BIOLOGY

- Copper treatment alters the permeability of tight junctions in cultured human intestinal Caco-2 cells
S. Ferruzza, M.-L. Scarino, G. Rotilio, M. R. Ciriolo, P. Santaroni, A. O. Muda, and Y. Sambuy G1138
- Differentiated intestinal epithelial cells exhibit increased migration through polyamines and myosin II
J. N. Rao, J. Li, L. Li, B. L. Bass, and J.-Y. Wang G1149
- Influence of *H. pylori* infection on meal-stimulated gastric acid secretion and gastroesophageal acid reflux
M. Feldman, B. Cryer, D. Sammer, E. Lee, and S. J. Spechler G1159
- Cloning, expression, and vesicular localization of zinc transporter Dri 27/ZnT4 in intestinal tissue and cells
C. Murgia, I. Vespignani, J. Cerase, F. Nobili, and G. Perozzi G1231
- Immunolocalization of anion exchanger AE2 and Na⁺-HCO₃⁻ cotransporter in rat parotid and submandibular glands
E. Roussa, M. F. Romero, B. M. Schmitt, W. F. Boron, S. L. Alper, and F. Thévenod G1288

INFLAMMATION/IMMUNITY/MEDIATORS

- Iron primes hepatic macrophages for NF- κ B activation in alcoholic liver injury
H. Tsukamoto, M. Lin, M. Ohata, C. Giulivi, S. W. French, and G. Brittenham G1240
- Desensitization to LPS after ethanol involves the effect of endotoxin on voltage-dependent calcium channels
N. Enomoto, S. Yamashina, M. Goto, P. Schemmer, and R. G. Thurman G1251
- NOX, a novel nitric oxide scavenger, reduces bacterial translocation in rats after endotoxin challenge
E. Dickinson, R. Tuncer, E. Nadler, P. Boyle, S. Alber, S. Watkins, and H. Ford G1281

HORMONES AND SIGNALING

- Role of the PI3K/PKB signaling pathway in cAMP-mediated translocation of rat liver Ntcp
C. R. L. Webster and M. S. Anwer G1165
- Role of neuropeptide-sensitive L-type Ca^{2+} channels in histamine release in gastric enterochromaffin-like cells
N. Zeng, C. Athmann, T. Kang, J. H. Walsh, and G. Sachs G1268

NEUROREGULATION AND MOTILITY

- Nerve-mediated motility of ileal segments isolated from NK₁ receptor knockout mice
R. Saban, N.-B. Nguyen, M. R. Saban, N. P. Gerard, and P. J. Pasricha G1173
- Capsaicin sensitivity and voltage-gated sodium currents in colon sensory neurons from rat dorsal root ganglia
X. Su, R. E. Wachtel, and G. F. Gebhart G1180
- Development of a test to measure gastric accommodation in humans
S. D. Kuiken, M. Samsom, M. Camilleri, B. P. Mullan, D. D. Burton, L. J. Kost, T. J. Hardyman, B. H. Brinkmann, and M. K. O'Connor G1217

LIVER AND BILIARY TRACT

- Hepatic fibronectin matrix turnover in rats: involvement of the asialoglycoprotein receptor
R. F. Rotundo, P. A. Vincent, P. J. McKeown-Longo, F. A. Blumenstock, and T. M. Saba G1189
- Nitric oxide mediates hepatic arterial vascular escape from norepinephrine-induced constriction
Z. Ming, C. Han, and W. W. Lutt G1200
- Regulation of G₁ cyclin-dependent kinases in the liver: role of nuclear localization and p27 sequestration
J. H. Albrecht, B. M. Rieland, C. J. Nelsen, and C. L. Ahonen G1207
- Evidence for Gd³⁺ inhibition of membrane ATP permeability and purinergic signaling
R. M. Roman, A. P. Feranchak, A. K. Davison, E. M. Schwiebert, and J. G. Fitz G1222
- CYP2E1 is not involved in early alcohol-induced liver injury
H. Kono, B. U. Bradford, M. Yin, K. K. Sulik, D. R. Koop, J. M. Peters, F. J. Gonzalez, T. McDonald, A. Dikalova, M. B. Kadiiska, R. P. Mason, and R. G. Thurman G1259

The Journal no longer publishes print subject and author indexes. Full searchability is available in the online version (<http://www.ajpgi.org>).

